

Amendments to the Claims:

1. (CURRENTLY AMENDED) An apparatus for detecting user speech for automatic speech recognition comprising:
 - a first microphone and at least a second microphone each operable to generate audio signals in response to sounds;
 - the first microphone operable to capture a greater proportion of speech sounds from a user than the second microphone;
 - processing circuitry operable to process the audio signals and to compare characteristics of the audio signals to a baseline;
 - speech recognition circuitry for further processing the audio signals and recognizing user speech in the audio signals;
 - the processing circuitry configured for selectively forwarding the audio signals from the first microphone to the speech recognition circuitry for further speech recognition processing only when the audio signals vary from the baseline more than a threshold amount, thus indicating that the user is speaking, but not forwarding the audio signals from the first microphone to the speech recognition circuitry and not completing the further speech recognition processing when user speech is not detected.

2. (CANCELLED)

3. (CANCELLED)

4. (ORIGINAL) The apparatus of claim 1 wherein the first microphone is located relative to the second microphone to capture a greater proportion of speech sounds of a user.

5. (ORIGINAL) The apparatus of claim 1 further comprising a headset to be worn by a user and housing the first and second microphones.

6. (ORIGINAL) The apparatus of claim 5 wherein the first microphone is positioned in the headset to be closer to a mouth of the user than the second microphone when the headset is worn.

7. (CURRENTLY AMENDED) The apparatus of claim 1 wherein the processing circuitry processes signal levels of the audio signals to compare to [a]the baseline.

8. (PREVIOUSLY PRESENTED) The apparatus of claim 1 wherein the processing circuitry processes signal characteristics of the audio signals that include at least one of energy level characteristics, frequency characteristics, amplitude characteristics and phase characteristics.

9. (CURRENTLY AMENDED) The apparatus of claim 8, wherein the processing circuitry is operable for initially determining a variation between signal characteristics of the audio signals when the user is not speaking and then using that variation as [a]the baseline.

10. (CANCELLED)

11. (ORIGINAL) The apparatus of claim 1 wherein the second microphone is an omnidirectional microphone.

12. (CURRENTLY AMENDED) The apparatus of claim 1 further comprising mel scale filters, the processing circuitry operable to use outputs of the mel scale filters for comparing the audio signals to [a]the baseline.

13. (CANCELLED)

14. (CURRENTLY AMENDED) A terminal system for detecting user speech for automatic speech recognition comprising:

a headset including first and second microphones operable to generate audio signals in response to sounds, the first microphone operable to capture a greater proportion of speech sounds from user wearing the headset than the second microphone;

a terminal including processing circuitry operable to process the audio signals and compare the characteristics of the audio signals to a baseline;

speech recognition circuitry for further processing audio signals and recognizing user speech in the audio signals;

the process circuitry configured for selectively forwarding the audio signals from the first microphone to the speech recognition circuitry for further speech recognition processing only when the audio signals vary from the baseline more than a threshold amount, thus indicating that the user is speaking, but not forwarding the audio signals from the first microphone to the speech recognition circuitry and not completing the further speech recognition processing when user speech is not detected.

15. (CANCELLED)

16. (CANCELLED)

17. (ORIGINAL) The terminal system of claim 14 wherein the first microphone is positioned in the headset to be closer to a mouth of the user than the second microphone when the headset is worn.

18. (CURRENTLY AMENDED) The terminal system of claim 14 wherein the processing circuitry processes signal levels of the audio signals to compare to [a]the baseline.

19. (PREVIOUSLY PRESENTED) The terminal system of claim 14 wherein the processing circuitry processes signal characteristics of the audio signals that include at least one of energy level characteristics, frequency characteristics, amplitude characteristics and phase characteristics.

20. (CURRENTLY AMENDED) The terminal system of claim 19, wherein the processing circuitry is operable for initially determining a variation between signal characteristics of the audio signals when the user is not speaking and then using that variation as [a]the baseline.

21. (PREVIOUSLY PRESENTED) The terminal system of claim 14 wherein the speech recognition circuitry is located in the terminal.

22. (CURRENTLY AMENDED) A headset for use with a terminal having speech recognition circuitry for processing inputs from the headsets and recognizing user speech, the headset comprising:

a first microphone and a second microphone each operable to generate audio signals in response to, the first microphone operable to

capture a greater proportion of speech sounds from a user than the second microphone; and

processing circuitry operable to process the audio signals and to compare characteristics of the audio signals to a baseline;

the processing circuitry configured for selectively forwarding the audio signals from the first microphone to the speech recognition circuitry of the terminal for further speech recognition processing only when the audio signals vary from the baseline more than a threshold amount, thus indicating that a user is speaking, but not forwarding the audio signals from the first microphone to the speech recognition circuitry and not completing the further speech recognition processing when user speech is not detected.

23. (CANCELLED)

24. (ORIGINAL) The headset of claim 22 wherein the first microphone is located relative to the second microphone to capture a greater proportion of speech sounds of a user.

25. (CURRENTLY AMENDED) The headset of claim 22 wherein the processing circuitry processes signal levels of the audio signals to compare to [a]the baseline.

26. (PREVIOUSLY PRESENTED) The headset of claim 22 wherein the processing circuitry processes signal characteristics of the audio signals that include at least one of energy level characteristics, frequency characteristics, amplitude characteristics and phase characteristics.

27. (CURRENTLY AMENDED) The headset of claim 26, wherein the processing circuitry is operable for initially determining a variation between signal characteristics of the audio signals when the user is not speaking and then using that variation as [a]the baseline.

28. (CANCELLED)

29. (CURRENTLY AMENDED) The headset of claim 22 further comprising mel scale filters, the processing circuitry operable to use outputs of the mel scale filters for comparing the audio signals to [a]the baseline.

30. (CANCELLED)

31. (CURRENTLY AMENDED) An apparatus in a voice-driven system that includes speech recognition circuitry for processing audio signals and recognizing user speech, comprising:

a plurality of microphones separated on the body of a user and generating a plurality of audio signals in response to sounds, at least ~~[[a]]~~ first audio signals of said plurality of audio signals including a greater proportion of user speech than ~~[[a]]~~ second audio signals of said plurality of audio signals which is characterized predominantly by ambient sounds; and

processing circuitry configured to process said plurality of audio signals to compare characteristics of the audio signals to a baseline;

the processing circuitry configured for selectively forwarding the first audio signals from the ~~first~~ microphones to the speech recognition circuitry to recognize the user speech only when the audio signals vary from the baseline more than a threshold amount, thus indicating that the user is speaking, but not forwarding the first audio signals to the speech recognition circuitry and not recognizing the user speech when user speech is not detected.

32. (PREVIOUSLY PRESENTED) The apparatus of claim 31 wherein said processing circuitry generates the baseline.

33. (ORIGINAL) The apparatus of claim 32 wherein said baseline is stored in a memory.

34. (PREVIOUSLY PRESENTED) The apparatus of claim 32 wherein said baseline represents a difference in signal level of the audio signals over a predetermined time base between said first and second audio signals.

35. (CANCELLED)

36. (PREVIOUSLY PRESENTED) The apparatus of claim 31 comprising a first microphone positioned near the mouth of a user and configured to develop a first audio signal characterizing predominantly user speech, and a second microphone positioned away from the mouth of the user and configured to develop a second audio signal characterizing predominantly sounds other than user speech.

37. (CURRENTLY AMENDED) The apparatus of claim 31 wherein the processing circuitry processes signal levels of the audio signals to compare to [a]the baseline.

38. (CANCELLED)

39. (CANCELLED)

40. (PREVIOUSLY PRESENTED) The apparatus of claim 31 wherein said speech processing circuitry is located in a central computer.

41. (PREVIOUSLY PRESENTED) The apparatus of claim 31 wherein said speech processing circuitry is located in a body worn terminal.

42. (PREVIOUSLY PRESENTED) The apparatus of claim 31 wherein said speech processing circuitry is located in a headset.

43. (ORIGINAL) The apparatus of claim 36 wherein said first microphone is directional and said second microphone is omnidirectional.

44. (CURRENTLY AMENDED) A method for detecting user speech in a voice-driven environment, the method comprising:

detecting sound with first and second microphones to generate audio -signals for the respective microphones;

locating the first microphone to detect a greater proportion of speech sounds from a user than the second microphone;

processing the audio signals generated by the first microphone and the second microphone and comparing characteristics of the audio signals to a baseline;

further selectively processing audio signals from the first microphone with speech recognition circuitry that recognizes user speech in the audio signals;

only forwarding audio signals for further speech recognition processing with the speech recognition circuitry when the audio signals vary from the baseline more than a threshold amount thus indicating that the user is speaking, but not forwarding the audio signals from the first microphone to the speech recognition circuitry and not completing the further speech recognition processing when user speech is not detected.

45. (CANCELLED)

46. (CANCELLED)

47. (ORIGINAL) The method of claim 44 further comprising positioning the microphones in a headset to be worn by a user.

48. (PREVIOUSLY PRESENTED) The method of claim 44 wherein the processing step processes signal characteristics of the audio signals that include at least one of energy level characteristics, frequency characteristics, amplitude characteristics and phase characteristics.

49. (CURRENTLY AMENDED) The method of claim 48 further comprising:

when the user is not speaking, determining a variation in the signal characteristics for both the audio signals of the first and second microphones and using that variation as [a]the baseline for comparison

50. (ORIGINAL) The method of claim 49 further comprising subsequently comparing the variation in the signal characteristics for both the first and second microphones to the baseline variation for determining if the user is speaking.

51. (ORIGINAL) The method of claim 50 further comprising determining if the signal characteristics variation exceeds the baseline variation by a predetermined amount to determine if the user is speaking.

52. (CURRENTLY AMENDED) A method useful in a voice-driven system for detecting user speech, comprising:

developing a plurality of audio signals from sounds at spaced locations on the body of a user, at least [[a]] first audio signals of said plurality of audio signals including a greater proportion of user speech than [[a]] second audio signals of said plurality of audio signals which is characterized predominantly by ambient sounds other than user speech; and

processing said plurality of audio signals to compare characteristics of the audio signals to a baseline;

further selectively processing the first audio signals with speech recognition circuitry that recognizes user speech in the audio signals;

only forwarding the first audio signal for further speech recognition processing with the speech recognition circuitry when the audio signals vary from the baseline more than a threshold amount thus indicating that the user is speaking, but not forwarding the first audio signals to the speech recognition circuitry and not completing the further speech recognition processing when user speech is not detected.

53. (PREVIOUSLY PRESENTED) The method of claim 52 wherein said processing generates the baseline.

54. (ORIGINAL) The method of claim 53 wherein said baseline is stored in a memory.

55. (PREVIOUSLY PRESENTED) The method of claim 53 wherein said baseline represents a difference in signal level of the audio signals over a predetermined time base between said first and second audio signals.

56. (CANCELLED)

57. (PREVIOUSLY PRESENTED) The method of claim 52 comprising positioning a first microphone near the mouth of a user to develop said first audio signal characterizing predominantly user speech, and positioning a second microphone away from the mouth of the user to develop said second audio signal characterizing predominantly sounds other than user speech.

58. (CANCELLED)

59. (CANCELLED)

60. (CANCELLED)